

AMENDMENTS TO THE SPECIFICATION

Replace the paragraph at page 1, lines 14-15, with the following paragraph.

According to one aspect, the present invention provides a glazing panel as defined in Claim 1 having dimensions of at least 40 cm by 30 cm comprising a first glass sheet having a thickness within the range 1.5 mm to 14 mm a second glass sheet, spaced from the first glass sheet and having a thickness within the range 1.5 mm to 14 mm, an interlayer adhered between the first and second glass sheets so as to form a laminated assembly, the interlayer being selected from a polyvinyl butyral (PVB) based material and an ethylvinylacetate (EVA) based material characterised in that the interlayer has a maximum heat release rate of less than 650 kW/m<sup>2</sup> and in that the glazing panel has a mechanical resistance rating of at least 2B2 in a pendulum test according to European standard EN12600.

Replace the paragraph at page 3, lines 10-11, with the following paragraph.

According to another aspect, the present invention provides a glazing panel as defined in Claim 4 consisting essentially of a first, non-wired glass sheet, a second, non-wired glass sheet, the second glass sheet being spaced from the first glass sheet without an intervening intumescent material an interlayer adhered between the first and second glass sheets so as to form a laminated assembly, the interlayer being selected from a polyvinyl butyral (PVB) based material and an ethylvinylacetate (EVA) based material a third, non-wired glass sheet having a thickness within the range 1.5 mm to 14 mm and having a surface compression at a central portion of at least 80 MPa., spaced from the second glass sheet by a sealed gas filled space, with optional coatings on one or more of the glass sheets, the glazing panel having a fire rating of at least EW60 when the first glass sheet is exposed to a heat source in a fire test.

Replace the paragraph at page 3, lines 32-35, with the following paragraph.

Where the term "Fire" indicates the orientation of the glazing panel for its fire rating and the coating layers are present as indicated on the adjacent glass surfaces. These structures and others defined in claim 5 may be particularly useful as architectural glazings for external building facades, and may be a glazing panel which has one of the following characteristics

a) the glazing panel has dimensions of at least 40 cm by 30 cm; b) the glazing panel has dimensions of at least 40 cm by 30 cm and consists essentially of the structure first glass sheet/interlayer/second glass sheet/solar control coating layer/spacing/infra red reflecting layer/third glass sheet with each of the glass sheets having a thickness in the range 3 mm to 7 mm, and the third glass sheet having a surface compression at a central portion of at least 80 MPa; c) the glazing panel has dimensions of at least 40 cm by 30 cm and consists essentially of the structure first glass sheet/interlayer/second glass sheet/solar control coating layer/spacing/third glass sheet with each of the glass sheets having a thickness in the range 3 mm to 7 mm, and the third glass sheet having a surface compression at a central portion of at least 80 MPa; d) the glazing panel has dimensions of at least 40 cm by 30 cm and consists essentially of the structure infra red reflecting layer/first glass sheet/interlayer/second glass sheet/ spacing/ solar control coating layer/third glass sheet with each of the glass sheets having a thickness in the range 3 mm to 7 mm, and the third glass sheet having a surface compression at a central portion of at least 80 MPa; e) the glazing panel has a surface area of greater than or equal to 0.8 m<sup>2</sup> and consists essentially of the structure /first glass sheet/interlayer/second glass sheet/ infra red reflecting layer/spacing/third glass sheet/infra red reflecting coating with each of the glass sheets having a thickness in the range 5.5 mm to 16.5 mm and each glass sheet having a surface compression at a central portion of at least 80 MPa f) the glazing panel has dimensions of at least 40cm by 30cm and consists essentially of the structure infra red reflecting layer/first glass sheet/spacing/infra red reflecting

layer/second glass sheet/ interlayer/third glass sheet with the first glass sheet having a thickness between 5.5 mm and 6.5 mm, the second glass sheet having a thickness between 5.5mm and 6.5mm, the third glass sheet having a thickness between 11.5mm and 12.5mm and each of the glass sheets having a surface compression at a central portion of at least 80 MPa; g) the glazing panel has dimensions of at least 40cm by 30cm and consists essentially of the structure infra red reflecting layer/first glass sheet/spacing/ /second glass sheet/ interlayer/ infra red reflecting layer/ third glass sheet with the first glass sheet having a thickness between 5.5 mm and 6.5 mm, the second glass sheet having a thickness between 11.5mm and 12.5mm, the third glass sheet having a thickness between 5.5mm and 6.5mm and each of the glass sheets having a surface compression at a central portion of at least 80 MPa; h) the glazing panel has dimensions of at least 40cm by 30cm and consists essentially of the structure infra red reflecting layer/first glass sheet/spacing/ /second glass sheet/ interlayer/ infra red reflecting layer/ third glass sheet with the first glass sheet having a thickness between 5.5 mm and 6.5 mm, the second glass sheet having a thickness between 5.5mm and 6.5mm, the third glass sheet having a thickness between 9.5mm and 13.5mm and each of the glass sheets having a surface compression at a central portion of at least 80 MPa.

Replace the paragraph at page 4, lines 6-11, with the following paragraph.

~~The structures defined in claims 6, 7 and 8 may be particularly~~ Particularly suited to interiors architectural glazing panels is a glazing panel having dimensions of at least 1m by 2.2m and a fire rating of at least EW60 in which the glazing panel consists essentially of the structure of a first glass sheet, the first glass sheet having a thickness within the range 2.5 mm to 8.5 mm 5 a second glass sheet, the second glass sheet having a thickness within the range 2.5 mm to 8.5 mm, spaced from the first glass sheet an interlayer adhered between the first and second glass sheets so as to form a laminated assembly at least one face of each of the

glass substrates being provided with a coating layer having a normal emissivity of less than 0.3. An internal face of each of the glass sheets, adjacent to the interlayer, can be provided with an infra red reflecting layer. A exposed face of each of the glass sheets, spaced from the interlayer, can be provided with an infra red reflecting coating. The thickness of the glass sheets may be approximately, 3mm, 4mm, 5mm or 6mm, with the individual sheets in each glazing panel having substantially the same thickness or different thicknesses. This structure may be used to provide a range of glazing panels have different total thicknesses and/or different fire ratings.

Replace the paragraph at page 4, lines 12-16, with the following paragraph.

According to a further aspect, the present invention provides a glazing panel as defined in Claim 9 having dimensions of at least 40 cm by 30 cm, having a fire rating of at least EW30 and a mechanical resistance of at least 2B2 in a pendulum test according to European standard EN12600, in which the glazing panel has one of the following characteristics a) the glazing panel consists essentially of the structure of a first glass sheet having a thickness within the range 1.5 mm to 4.5 mm, the first glass sheet being selected from the group consisting of glass having an expansion coefficient less than or equal to  $9 \times 10^{-6}$  and glass having a Tg greater than or equal to 580°C, a second glass sheet having a thickness within the range 1.5 mm to 4.5 mm, the second glass substrate being selected from the group consisting of soda lime glass, glass having an expansion coefficient less than or equal to  $9 \times 10^{-6}$  and glass having a Tg greater than or equal to 580°C, and an interlayer adhered between the first and second glass sheets so as to form a laminated assembly, the interlayer being selected from a polyvinyl butyral (PVB) based material and an ethylvinylacetate (EVA) based materials first sheet; and b) the glazing panel consisting essentially of a first, non-wired glass sheet having a thickness within the range 1.5 mm to 2.5

mm, a second, non-wired glass sheet having a thickness within the range 1.5 mm to 2.5 mm,  
the second glass sheet being spaced from the first glass sheet an interlayer adhered between  
the first and second glass sheets so as to form a laminated assembly, the interlayer being  
selected from a polyvinyl butyral (PVB) based material and an ethylvinylacetate (EVA)  
based material a third, non-wired glass sheet having a thickness within the range 1.5 mm to  
2.5 mm spaced from the second glass sheet by a an intervening, intumescent layer. This may  
provide an alternative to polished wired glass by providing a desired fire rating in a relatively  
light structure without the inconvenience of a visible, wire grill embedded in the glazing.  
These structures may also combine these advantages with a desired level of mechanical  
resistance.

Replace the paragraph at page 4, lines 17-22, with the following paragraph.

According to another aspect, the present invention provides a glazing panel as defined in claim 10 having dimensions of at least 40 cm by 30 cm and having at least one of the  
following characteristics a) the glazing panel has a fire rating of at least EW30 and consists  
essentially of the structure first glass sheet/interlayer/second glass sheet/intumescent  
layer/third glass sheet with each of the glass substrates having a thickness in the range 1.5  
mm to 4 mm, b) the glazing panel has a fire rating of at least EW60 and consists essentially  
of the structure first glass sheet/interlayer/second glass sheet/intumescent layer/third glass  
sheet with each of the glass substrates having a thickness in the range 2.5 mm to 4.5 mm, c)  
the glazing panel has a fire rating of at least EW60 and consists essentially of the structure  
first glass sheet/interlayer/second glass sheet/intumescent layer/third glass  
sheet/interlayer/fourth glass sheet with each of the glass sheets having a thickness in the  
range 1.5 mm to 4.5 mm, d) the glazing panel has a fire rating of at least EI90 and consists  
essentially of the structure glass sheet/intumescent layer/ glass sheet/intumescent layer/glass

sheet/ intumescent layer/glass sheet/interlayer/ glass sheet/intumescent layer/ glass sheet/intumescent layer/glass sheet/ intumescent layer/glass sheet with each of the glass sheets having a thickness in the range 1.5 mm to 4.5 mm, e) the glazing panel has a fire rating of at least EU20 and consists essentially of the structure glass sheet/intumescent layer/ glass sheet/intumescent layer/glass sheet/ intumescent layer/glass sheet/interlayer/ glass sheet/intumescent layer/ glass sheet/intumescent layer/glass sheet/ intumescent layer/glass sheet/ interlayer/ glass sheel/intumescent layer/ glass sheet/intumescent layer/glass sheet/intumescent layer/glass sheet/ intumescent layer/glass sheet with each of the glass sheets having a thickness in the range 1.5 mm to 4.5 mm, f ) the glazing panel has a fire rating of at least E30 and consists essentially of the structure glass sheet/interlayer/glass sheet/sealed gas filled separation/glass sheet/intumescent layer/glass sheet with each of the glass sheets having a thickness in the range 2.5 mm to 3.5 mm, g) the glazing panel has a fire rating of at least E30 and consists essentially of the structure glass sheet having a thickness in the range 2.5 mm to 4.5 mm /interlayer/glass sheet having a thickness in the range 3.5 mm to 4.5 mm /low emissivity coating/sealed gas filled separation/glass sheet having a thickness in the range 2.5 mm to 3.5 mm /intumescent layer/glass sheet having a thickness in the range 2.5 mm to 3.5 mm, and h)  
the glazing panel has a fire rating of at least E30 and consists essentially of the structure glass sheet having a thickness in the range 5.5 mm to 6.5 mm /low emissivity coating/interlayer/glass sheet having a thickness in the range 2.5 mm to 3.5 mm /sealed gas filled separation/glass sheet having a thickness in the range 2.5 mm to 3.5 mm /intumescent layer/glass sheet having a thickness in the range 2.5 mm to 3.5 mm. As defined by claims 11 and 12, the The intumescent layer in such structures may be different from that commonly used in fire rated glazing structures. For example, the intumescent layer can comprise silica ( $\text{SiO}_2$ ) and sodium oxide ( $\text{Na}_2\text{O}$ ), where the ratio  $R_p$  of  $\text{SiO}_2/\text{Na}_2\text{O}$  by weight is greater than 3.3. The water content of the intumescent layer can be less than or equal to 22% by weight.

This may allow the intumescent layer to be optimised, particularly to ensure sealing or gas tightness during a fire test to ensure the integrity of the glazing panel.